

AMENDMENTS TO THE CLAIMS

The following listing of the claims replaces all prior claims presented in the application.

1. (Original) Interface apparatus comprising:
a panel defining at least one edge;
at least one detector arranged along said at least one edge of said panel; and
an electromagnetic radiation beam emitter operative to direct at least one beam of electromagnetic radiation onto said panel from a variable distance and at a variable angle;
said panel being operative to transmit electromagnetic radiation from said at least one beam impinging thereon to said at least one edge thereof, for detection by said at least one detector, said panel being operative to generally attenuate said electromagnetic radiation passing therethrough to said at least one edge as a function of the distance traveled by the electromagnetic radiation through the panel, whereby said at least one detector is operative to provide at least one output which can be used to determine said variable distance and said variable angle.
2. (Currently Amended) Interface apparatus according to claim 1 and wherein said panel is selected from a group consisting of: comprises a display, a mobile telephone display panel, a hand-held computing device display panel, a television panel and an input pad panel.
- 3-6. (Cancelled)
7. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and wherein said at least one detector comprises a generally linear array of detectors.
8. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and wherein said at least one detector is capable of detecting said electromagnetic radiation at predetermined frequencies in at least one of visible and non-visible ranges.

9. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a generally conical beam, at least one generally collimated beam, at least one beam having a generally asymmetrical cross section, at least one beam having a generally pyramidal shape and at least one beam having a generally polygonal cross section.

10. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and wherein said electromagnetic radiation beam emitter is operative to provide a plurality of beams.

11-14. (Cancelled)

15. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a modulated beam, a beam of visible light and a beam of non-visible electromagnetic radiation.

16-17. (Cancelled)

18. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of location, orientation, shape and size of at least one impingement spot defined by impingement of said at least one electromagnetic radiation beam on said panel.

19-21. (Cancelled)

22. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter.

23. (Cancelled)

24. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter, said location being defined as a Z-distance between a plane of said panel along a line perpendicular thereto and a plane parallel to said plane of said panel in which a beam origin of said electromagnetic radiation beam emitter is located.

25. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter, said location being defined as a point-to-point distance between a beam origin of said electromagnetic radiation beam emitter and a center of an impingement location of said beam on said panel.

26. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of a trajectory of said electromagnetic radiation beam emitter.

27. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 wherein impingement of said beam on said panel provides a generally elliptical impingement spot.

28. (Original) Interface apparatus according to claim 27 and also comprising analysis circuitry operative to determine a ratio of a major axis and a minor axis of said elliptical impingement spot, thereby to determine an angle of intersection between said beam and said panel.

29. (Currently Amended) Interface apparatus according to ~~any of the preceding~~ claims 1 and comprising analysis circuitry operative to employ detected variations in intensity of said electromagnetic radiation at different locations on an impingement spot defined by impingement of said beam on said panel, thereby to assist in determination of an angle of intersection between said beam and said panel.

30. (Original) An interface method comprising:

providing a panel defining at least one edge, at least one detector arranged along said at least one edge of said panel and an electromagnetic radiation beam emitter operative to direct at least one beam of electromagnetic radiation onto said panel from a variable distance and at a variable angle;

directing said beam of electromagnetic radiation from said electromagnetic radiation beam emitter onto said panel, thereby producing at least one impingement spot;

employing said panel to transmit electromagnetic radiation from said at least one impingement spot to said at least one edge thereof, said panel being operative to generally attenuate said electromagnetic radiation passing therethrough to said at least one edge as a function of the distance traveled by the electromagnetic radiation through the panel;

detecting, by said at least one detector, said electromagnetic radiation transmitted by said panel to said at least one edge;

employing an output of said at least one detector to determine said variable distance and said variable angle.

31. (Currently Amended) An interface method according to claim 30 and wherein providing said panel comprises providing a panel selected from a group consisting of: a display, a mobile telephone display panel, a hand-held computing device display panel, a television display panel and an input pad panel.

32-35. (Cancelled)

36. (Currently Amended) An interface method according to ~~any of~~ claims 30 —35 and wherein providing said at least one detector comprises providing a generally linear array of detectors.

37. (Currently Amended) An interface method according to ~~any of~~ claims 30 —36 and wherein said detecting by said at least one detector comprises detecting electromagnetic radiation at predetermined frequencies in at least one of visible and non-visible ranges.

38. (Currently Amended) An interface method according to ~~any of~~ claims 30 —37 and wherein providing said electromagnetic radiation beam emitter comprises providing an electromagnetic radiation beam emitter which is operative to provide at least one of a generally conical beam, at least one generally collimated beam, at least one beam having a generally asymmetrical cross section, at least one beam having a generally pyramidal shape and at least one beam having a generally polygonal cross section.

39. (Currently Amended) An interface method according to ~~any of~~ claims 30 —38 and wherein providing said electromagnetic radiation beam emitter comprises providing an electromagnetic radiation beam emitter which is operative to provide a plurality of beams.

40-43. (Cancelled)

44. (Currently Amended) An interface method according to ~~any of~~ claims 30 —43 and wherein providing said electromagnetic radiation beam emitter comprises providing an electromagnetic radiation beam emitter which is operative to provide at least one of a modulated beam, a beam of visible light and a beam of non-visible electromagnetic radiation.

45-46. (Cancelled)

47. (Currently Amended) An interface method according to ~~any of~~ claims 30 —46 and also comprising providing detector output processing circuitry operative to receive at least one output of

said at least one detector and to provide an output indication of at least one of location, orientation, shape and size of at least one impingement spot defined by impingement of said at least one electromagnetic radiation beam on said panel.

48-50. (Cancelled)

51. (Currently Amended) An interface method according to ~~any of~~ claims 30 —50—and also comprising providing detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter.

52. (Cancelled)

53. (Currently Amended) An interface method according to ~~any of~~ claims 30 —52—and also comprising providing detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter, said location being defined as a Z-distance between a plane of said panel along a line perpendicular thereto and a plane parallel to said plane of said panel in which a beam origin of said electromagnetic radiation beam emitter is located.

54. (Currently Amended) An interface method according to ~~any of~~ claims 30 —53—and also comprising providing detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter, said location being defined as a point-to-point distance between a beam origin of said electromagnetic radiation beam emitter and a center of an impingement location of said beam on said panel.

55. (Currently Amended) An interface method according to ~~any of~~ claims 30 —54—and also

comprising providing detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of a trajectory of said electromagnetic radiation beam emitter.

56. (Currently Amended) An interface method according to ~~any of claims 30 —55~~ and also comprising providing a generally elliptical impingement spot by impingement of said beam on said panel.

57. (Original) An interface method according to claim 56 and also comprising:
providing analysis circuitry operative to determine a ratio of a major axis and a minor axis of said elliptical impingement spot; and
employing said analysis circuitry to determine an angle of intersection between said beam and said panel.

58. (Currently Amended) An interface method according to ~~any of claims 30 —57~~ and also comprising:
providing analysis circuitry operative to employ detected variations in intensity of said electromagnetic radiation at different locations on an impingement spot defined by impingement of said beam on said panel; and
employing said analysis circuitry to assist in determination of an angle of intersection between said beam and said panel.